



EC - TYPE EXAMINATION CERTIFICATE

**Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC**

- 3 EC - Type Examination Certificate Number: **Baseefa09ATEX0186X**
- 4 Equipment or Protective System: **AAG XXX Range of Cable Glands**
- 5 This certificate is held by: **Abtech Limited**
- 6 Address: **Sanderson Street, Lower Don Valley, Sheffield, S9 2UA**
- 7 This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- 8 Baseefa, Notified Body number 1180, in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.
- The examination and test results are recorded in confidential Report No. GB/BAS/ExTR09.0126/00
- 9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 60079-0: 2006, EN 60079-1: 2004, EN 60079-7: 2006, IEC 61241-0: 2004, IEC 61241-1: 2004
except in respect of those requirements listed at item 18 of the Schedule.
- 10 If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.
- 11 This EC - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified equipment or protective system. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.
- 12 The marking of the equipment or protective system shall include the following :

Ex II 2GD Ex d IIC Ex e II Ex tD A21 IP66 (-60°C ≤ ta ≤ +80°C)

This certificate may only be reproduced in its entirety, without any change, schedule included.


Baseefa Customer Reference No. 6376

Project File No. 09/0435

This certificate is granted subject to the general terms and conditions of Baseefa. It does not necessarily indicate that the equipment may be used in particular industries or circumstances.

Baseefa

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R S SINCLAIR
DIRECTOR
On behalf of
Baseefa



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Schedule

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Certificate Number Baseefa09ATEX0186X

15 Description of Equipment or Protective System

The AAG XXX RANGE OF CABLE GLANDS

The AAG Range of Cable Glands is intended for use with an effectively filled and circular, armoured or basket weave armoured, or braided (screened) cable and comprises the following components the metal parts of which can be manufactured in brass and may be nickel plated to suit the application:-

- a. An entry component, in the size range (M20 to M75)
- b. A displacement sealing ring
- c. A combined compression spigot and armour clamping cone
- d. An armour clamping ring for steel wire armour
- e. An armour clamping ring for basket weave steel wire armour or braided (screened cable)
- f. A middle nut
- g. An outer seal assembly (sleeve seal and support ring)
- h. A back nut

The XXX is used to define the size of gland e.g 20a or 25 etc.

Variation 0.1

Substitution of the M20 to M75 entry component with an entry component having an NPT equivalent in the range 1/2"NPT to 3"NPT.

Variation 0.2

Substitution of the M20 to M50 entry component with an entry having a Pg equivalent in the range Pg13.5 to Pg 42.

Variation 0.3

To allow the introduction of additional sizes of glands AAG-20/16, AAG-20b, AAG-80, AAG-90 and AAG-100 to the range.

16 Report Number

GB/BAS/ExTR09.0126/00

17 Special Conditions for Safe Use

1. These glands are suitable for use within an operating temperature range of -60°C to +80°C.
2. When the gland is used for increased safety or dust protection, the entry thread shall be suitably sealed, in accordance with EN 60079-14, to maintain the ingress protection rating of the associated enclosure
3. Glands for use with conduit, unarmoured or braided cables are only suitable for fixed installations, the cable for which must be effectively clamped to prevent pulling and twisting.
4. In all installations both clamping rings must be fitted. When used with armoured or braided cable the unused ring must be installed behind the used ring.



18 Essential Health and Safety Requirements

All relevant Essential Health and Safety Requirements are covered by the standards listed at item 9.

19 Drawings and Documents

Number	Issue	Date	Description
ABT20091	A	02/07/09	Certification Marking – AAG cable glands
Baseefa07ATEX0152X	--	18/07/07	DEX-A XXX Range of Cable Glands



SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE

**Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC**

- 3 Supplementary EC - Type Examination Certificate Number: **Baseefa09ATEX0186X/1**
- 4 Equipment or Protective System: **AAG XXX Range of Cable Glands**
- 5 This certificate is held by: **Abtech Limited**
- 6 Address: **Sanderson Street, Lower Don Valley, Sheffield, S9 2UA**
- 7 This supplementary certificate extends EC – Type Examination Certificate No. Baseefa09ATEX0186X to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This supplementary certificate shall be held with the original certificate.

This certificate may only be reproduced in its entirety, without any change, schedule included.

Baseefa Customer Reference No. **6376**

Project File No. **10/0453**

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Schedule

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Certificate Number Baseefa09ATEX0186X/1

15 Description of the variation to the Equipment or Protective System

Variation 1.1

An alternative armour clamping arrangement utilising single piece armour clamping rings, in two sizes, for either wire armoured cable (UW), or braided cables (UX). The alternative rings optionally replace the existing assembly using two rings together (i.e. one used to clamp and the other used as a spacer), in gland sizes 2016 to 75 (and equivalent).

Variation 1.2

Introduction of alternative sealing rings for gland sizes 80, 90 and 100 to increase the range of cable sizes that can be accommodated.

Variation 1.3

Use of stainless steel as an alternative material of manufacture.

Variation 1.4

Extension of the permitted service temperature range to +100°C.

16 Report Number

Baseefa Report GB/BAS/ExTR10.0149/00

17 Special Conditions for Safe Use

1. The permitted service temperature range is -60°C to +100°C

18 Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 Drawings and Documents

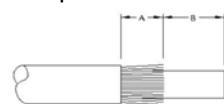
Number	Sheet	Issue	Date	Description
ABT20091	---	C	30/06/10	Certification marking

Drawing held on IECEx BAS 09.0088X

AAG Cable Glands Installation Procedure

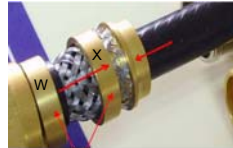


Cable Preparation

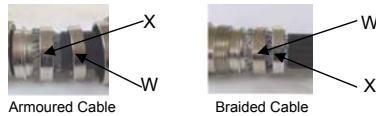


Strip outer insulation as shown
 Length "A" ≤ M32 = 20mm
 ≥ M40 = 25mm
 Length "B" : To suit equipment

- For increased ingress protection a suitable sealing washer should be fitted to the entry adaptor.
- Fit the entry adaptor to the enclosure, using a locknut if required
- Fit the back nut (1, 2, 3, 4), middle nut (5), armour clamp ring (6-1) and support ring (6-2) over the cable.
- Push the cable through the armour cone until the end of the armour/braid is against the shoulder as shown. For braided cable clamp ring marked 'W' should be against armour cone. For armour cable cable clamp ring marked 'X' should be against armour cone. The other ring, X or W should be used as the support ring.



IMPORTANT
 Both clamp rings should be used together



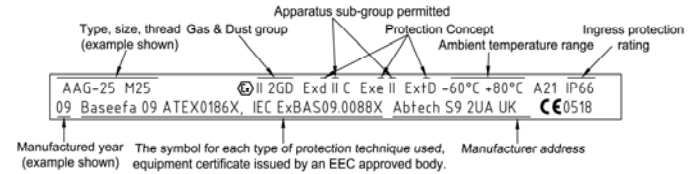
- Remove the inner seal (8) from the entry adaptor and insert cable. Screw middle nut onto adaptor until hand tight then using a suitable spanner or wrench to tighten a further 1/2 to 3/4 of a turn.
- Unscrew middle nut and inspect to ensure that the armour or braid is fully clamped between the armour cone and the armour clamping ring. If necessary repeat this process to ensure the armour/braid is securely clamped.
- Re-insert the inner seal (8) into the entry adaptor (9) then fit the assembled middle nut and cable into the entry adaptor. Using a suitable wrench or spanner, tighten the middle nut assembly until resistance is felt then tighten a further 1/2 to 3/4 of a turn.
- Fit the back nut and tighten until resistance is felt then tighten a further 1/2 turn ensuring that the middle nut does not turn when tightening the back nut.
- If required, the shroud should now be fitted over the cable gland assembly.

Special Conditions for Safe Use

- These glands are suitable for use within an operating temperature range of -60°C to +80°C.
- When the gland is used for increased safety or dust protection, the entry thread shall be suitably sealed, in accordance with IEC/EN 60079-14, to maintain the ingress protection rating of the associated enclosure.
- Glands are only suitable for fixed installations, the cable for which must be effectively clamped to prevent pulling and twisting.
- Both the armour clamp ring (6-1) and support ring (6-2) must always be fitted together, i.e. if armour clamp ring 'W' is used to clamp wire armour, then the unused armour clamp ring, marked 'X', should be used as the support ring. If the armour clamp ring 'X' is used to clamp braid or screen, then the unused armour clamp ring, marked 'W', should be used as the support ring.

ABTQ-84
 Revision Date: 13.08.2009 rev00

ATEX and IEC EX Marking details



Cable Gland Selection Chart

Part Number	Entry Thread size			Cable Acceptance Details							Hexagon Dimensions		Thread Length "c"		
				Inner Sheath ID		Outer Sheath OD		Amour Size	Across Flats "A"	Across Corners "B"	Metric	NPT	PG		
				Standard Seal	Alternative Seal (S)	Min.	Max.							Min.	Max.
AAG-2016	M16x1.0	1/2"	PG13.5	3.0	4.5	-	-	7.0	12.0	0.0/7	24	26.8	15	20	15
AAG-20a	M20	1/2"	PG13.5	4.5	8.0	-	-	7.0	12.0	0.0/7	24	26.8	15	20	15
AAG-20b	M20	1/2"	PG13.5	7.5	10.5	-	-	11.0	16.0	0.0/7	24	26.8	15	20	15
AAG-20c	M20	1/2"	PG13.5	8.5	11.9	-	-	11.0	16.0	0.0/7	24	26.8	15	20	15
AAG-20d	M20	3/4"	PG13.5	11.0	14.3	8.5	13.0	14.3	20.0	0.0/7	30	33.5	15	20	15
AAG-25a	M25	1"	PG21	13.0	20.2	9.5	15.4	18.5	26.0	0.0/7	36	40.5	15	25	15
AAG-32	M32	1 1/4"	PG29	20.0	26.4	15.5	21.2	24.0	33.0	0.0/7	45.8	51.2	15	25	15
AAG-40	M40	1 1/2"	PG36	25.0	31.7	22.0	28.0	30.0	41.0	0.0/7	55	61.5	15	25	15
AAG-50	M50	2"	PG42	31.5	44.4	27.5	36.5	38.0	51.0	0.1/0	65	72.8	15	27	15
AAG-63	M63	2 1/2"	-	42.5	54.3	39.0	48.0	48.0	64.0	0.1/0	80	89.5	15	40	-
AAG-75	M75	3"	-	54.5	65.3	48.5	58.3	60.0	77.0	0.1/0	95	104.5	15	40	-
AAG-80	M80	3 1/2"	-	67	73	-	-	75	89.5	0.1/0	107	114	20	42.7	-
AAG-90	M90	3 1/2"	-	67	77.6	-	-	75	89.5	0.1/0	115	123	20	42.7	-
AAG-100	M100	4"	-	76.5	91.6	-	-	86	104.5	0.1/0	128	139	20	44	-

Certification Details

Certificate Number: ATEX: Baseefa09ATEX0186X, IEC Ex: IEC ExBAS09.0088X
 Coding: II 2GD Ex d IIC Ex e II Ex tD A21
 Ambient Temperature: -60°C ≤ Tamb ≤ 80°C
 Ingress Protection: IP 66

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